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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/517,279	11/15/2004	Hiroyasu Kawada	LA-7630-101US	5703

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EXAMINER

PIGGUSH, AARON C

ART UNIT	PAPER NUMBER
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2838

DATE MAILED: 04/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/517,279

Applicant(s)

KAWADA ET AL.

Examiner

Aaron Piggush

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 January 2006.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 3-5 and 7-28 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1, 3-5, and 7-28 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 15 November 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 27 January 2006.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

The references listed in the specification but not included on the IDS are the following: Japanese No. 2000-30689 on page 2, Japanese No. 6-124698 on page 3, and Japanese No. 10-92412 on page 3.

2. The information disclosure statement filed January 27, 2006 (same as November 15, 2004) fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. It has been placed in the application file, but the information referred to therein has not been considered.

The references listed in the specification that do not have any relevant explanation are the following: JP-11-174633, JP-04-312592, and JP-08-278528.

3. Examiner respectfully notes that applicant did indeed submit the IDS dated November 15, 2004 with the initial application, but it was not addressed in the first office action because it

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was not included in the application file for the examiner due to a scanning error at the USPTO.

However, the problems mentioned above still remain.

Claim Objections

4. Claims 1, 3-5, and 7-12 are objected to because of the following informalities: On line 7 of claim 1, “ton” should read “top”. Claims 3-5 and 7-12 are objected to as being dependent upon an objected claim (claim 1). Furthermore, claim 3 and its dependent claims are additionally objected to because on line 1 of claim 3, “claims” should read “claim” and the term “wherein” is repeated twice in a row on lines 2 and 4. Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Carter (US 5,877,609).

With respect to claim 1, Carter discloses a storage battery comprising:

main positive and negative terminals that are connected to a plate pack (no. 114 and 112 in Fig. 2 and col 2 ln 35-39);

at least one auxiliary terminal that is connected via a connection portion to at least one of the main positive and negative terminals (no. 140, 150, 174 and identical terminal located adjacent [not labeled in Fig.] in Fig. 2).

a container for accommodation of the plate pack (no. 110 in Fig. 2); and

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a lid for covering an opening of the container (top of no. 110 in Fig. 2); wherein said lid has on its top a recess (the holes into which the auxiliary connections are placed or screwed into are recesses) and said at least one auxiliary terminal is located in said recess (no. 362, 364, 366, and 368 in Fig. 4 and col 5 ln 57 to col 6 ln 13).

Additionally, the connection portions no. 240, 250, 340, and 350 are partially placed in recesses on the slanted side of the battery in Fig. 3 and 4, and those connection portions can reasonably be considered part of the auxiliary terminals.

Furthermore, the device of Carter discloses claim 1 as mentioned above because it has an interchangeable amount of auxiliary terminals, which includes one auxiliary terminal or one pair of auxiliary terminals (no. 162-168 in Fig. 2).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 3-5, 7-11, 13-21, and 23-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carter (US 5,877,609) in view of Lopez-Doriga (4,634,642).

With respect to claims 3, 13, 16, and 24, Carter discloses the storage battery according to claim 1 wherein part of the connection portion is embedded in the inside of the lid or located in a recess on the top of the lid (no. 240 and 250 in Fig. 3 and no. 340 and 350 in Fig. 4 and col 5 ln 57 to col 6 ln 13), however, does not expressly disclose wherein all of the connection is

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embedded inside of the lid or located in a recess on top of the lid so as not to be protruded outward from the top of the lid.

Lopez-Doriga discloses wherein the connection member is embedded on the inside of the lid (also considered to be located in a recess on top of the lid) (no. 7 in Fig. 3 connected through no. 2 in Fig. 2), in order to prevent any leaking or damage from electrolytes and to insulate the conducting member to safeguard against shocking and shorts.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to embed the connection member in the inside of the lid or locate it in a recess in the device of Carter, as did the device of Lopez-Doriga, so that leaking or accidental shocks or shorts could be prevented.

With respect to claims 4 and 14, Carter discloses the storage battery according to claim 3, wherein the connection portion is located in the recess on the top of the lid (no. 240 and 250 in Fig. 3 and col 5 ln 57-67), however, does not expressly disclose wherein the portion of the connection member is at least partially embedded in resin filled and cured in the recess.

Lopez-Doriga discloses wherein the connection portion is located in the inside of the lid and at least partially embedded in resin filled and cured in the recess (no. 7 in Fig. 3 connected through no. 2 in Fig. 2 and col 1 ln 8-10), in order to prevent any leaking or damage from electrolytes and to insulate the conducting member to safeguard against shocking and shorts.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to encase the connection member of Carter in resin, as did the device of Lopez-Doriga, so that any leaking, damage from leaking electrolytes, and accidental shocking or shorts could be prevented.

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With respect to claims 5, 15, and 23, Carter does not expressly disclose wherein said part of the connection portion embedded in the cured resin has on its side a ring-shaped protrusion.

Lopez-Doriga discloses a connection portion embedded in the cured resin which has on its side a ring-shaped protrusion (as seen on the sides of no. 7 in Fig. 3 and 4), in order to provide a strong contact from the main terminal to the auxiliary terminal.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include a ring-shaped protrusion on the side of the connection portion in the device of Carter, as did the device of Lopez-Doriga, so that a stronger and more stable connection could be made between the main and auxiliary terminals.

With respect to claims 7 and 17, although it could be implied that the screw connections of Carter at no. 142, 144, 162, 164, 166, and 168 in Fig. 2 and at no. 342, 344, 362 364, 366, and 368 in Fig. 4 have a bushing, Carter does not expressly disclose wherein the bushing is monolithically formed with each of the main positive and negative terminals, wherein said connection portion is connected via the bushing to each of the main positive and negative terminals.

Lopez-Doriga discloses a bushing monolithically formed with each of the main positive and negative terminals (as seen at bottom of terminals in Fig. 3), wherein said connection portion is connected via the bushing to each of the main positive and negative terminals (no. 7 in Fig. 3), in order to provide a strong, stable, and sealed connection between the terminals.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include a bushing formed at each of the main positive and negative terminals for a connection with the connection portion in the device of Carter, as did the device of Lopez-

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Doriga, so that a stronger, more stable, and well-sealed connection could be made at the terminals.

With respect to claims 8, 18, and 25, Carter discloses wherein the connection portion has a downwardly extending portion and a horizontal portion, wherein said downwardly extending portion obliquely extends from an upper portion (no. 240 and 250 in Fig. 3 and no. 340 and 350 in Fig. 4), however, does not expressly disclose wherein said downwardly extending portion extends obliquely from an upper portion of the bushing to the horizontal position.

Lopez-Doriga discloses wherein a downwardly extending portion of a connection member obliquely extends from an upper portion of the bushing to the horizontal position (no. 7 in Fig. 3), in order to provide a means for easily placing the connection portion below the lid and securing it in the resin.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include a downwardly extending portion extending from the bushing to a horizontal position in the device of Carter, as did the device of Lopez-Doriga, so that the connection portion could be more easily placed in the recess or embedded in resin inside the lid while still maintaining a strong and stable contact.

Additionally, if the statement “monolithically formed with any one of the main positive and negative terminals and the connection portion” of claim 25 was meant to be interpreted as “monolithically formed with any one of the main positive and negative terminals, and also monolithically formed with the connection portion”, then this interpretation of claim 25 can be rejected by the explanation of the rejection of claims 9 and 19, as seen below.

With respect to claims 9 and 19, Carter does not expressly disclose wherein the connection portion is monolithically formed with the bushing and each of the main positive and negative terminals.

Lopez-Doriga discloses wherein the connection portion is monolithically formed with the bushing and each of the main positive and negative terminals (as can be seen at the connection of no. 7 and the terminals in Fig. 3), in order to provide a strong, stable, and tightly closed connection.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to monolithically form the bushing and the terminals with the connection member in the device of Carter, as did the device of Lopez-Doriga, so that a stronger, more stable, and sealed connection could be made.

With respect to claims 10, 20, and 26, Carter does not expressly disclose wherein the connection portion is made of any one of lead and lead alloy.

Lopez-Doriga discloses wherein the connection portion is made of lead or lead alloy (col 1 ln 26-34 and col 2 ln 65-68), in order to provide a connection which is both conductive and strong.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to make the connection portion out of lead or a lead alloy in the device of Carter, as did the device of Lopez-Doriga, so that a strong and electrically conductive connection could be made.

With respect to claims 11, 21, and 27, Carter does not expressly disclose wherein the top of the lid defines a closed peripheral edge of the recess.

Lopez-Doriga discloses wherein the top of the lid defines a closed peripheral edge of the recess at the point where the connection member (no. 7 in Fig. 3 and 4) joins with the terminals, in order to contain the connection member under the lid while allowing a connection point to the battery terminals, therefore preventing shock or leakage.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have the lid define a closed peripheral edge of the recess in the device of Carter, as did the device of Lopez-Doriga, so that the shock or leakage could be more easily prevented while saving space on top of the battery and providing a more level surface for stacking other components.

9. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Carter (US 5,877,609) in view of Hwa (US 6,121,750).

With respect to claim 12, Carter discloses wherein said at least one auxiliary terminal comprises a pair of auxiliary terminals that are respectively connected to the main positive and negative terminals (no. 140, 150, 174 and identical terminal located adjacent [not labeled] in Fig. 2 and no. 342, 344, 362, 364, 366, and 368 in Fig. 4), however, does not expressly disclose wherein the main positive and negative terminals and the pair of auxiliary terminals are aligned in a substantially straight line.

Hwa discloses wherein the main positive and negative terminals and the pair of auxiliary terminals are aligned in a substantially straight line (no. 16, 14, 26, 24, 10, and 44 in Fig. 3 and Fig. 5), in order to provide a more convenient path for the connection members to connect the main and auxiliary terminals.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to align the main terminals and the auxiliary terminals in a substantially straight line in the device of Carter, as did the device of Hwa, so that a more convenient pathway for the connection members could be provided and so that the battery terminals would be symmetrical on both sides, which would in turn provide a more standardized shape and allow the battery to be used in a wider array of electronic devices.

10. Claims 22 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carter (US 5,877,609) and Lopez-Doriga (4,634,642), as applied to claim 13 above, and further in view of Hwa (US 6,121,750).

With respect to claim 22, see the rejections of claims 12 and 13 above. The motivation for combining Hwa with Carter is listed in the rejection of claim 12, and the motivation for combining Lopez-Doriga is listed in the rejection of claim 13.

With respect to claim 28, see the rejections of claims 12 and 24 above. The motivation for combining Hwa with Carter is listed in the rejection of claim 12, and the motivation for combining Lopez-Doriga is listed in the rejection of claim 13.

Response to Arguments

11. Applicant's arguments filed January 27, 2006 have been fully considered but they are not persuasive or are moot in view of the new ground(s) of rejection.

With respect to claims 1-3, applicant argues that Carter does not teach the newly added feature that the lid has on its top a recess and the at least one auxiliary terminal is located in the recess.

Examiner respectfully disagrees for the following reasons: As noted above in the 102 rejection of claim 1, the hole which has the connection for the auxiliary terminal (i.e. it is a screw hole) is considered a recess on the top of the lid of Carter. Furthermore, due to the changes to the claims by the applicant, claim 3 has now been rejected under the 103 rejections with Carter in view of Lopez-Doriga.

With respect to claim 4, applicant argues that for the reasons above, combination of the features of claim 4 with the amended claim 1 and its dependent claims is not obvious for one skilled in the art from Lopez-Doriga and Carter.

Examiner respectfully disagrees for the following reasons: Carter and Lopez-Doriga are analogous art (auxiliary terminal connections for batteries), and the motivations listed above in the rejections of claims 1-4 and any depending claims are considered reasonable by the examiner, in order to attain the desired results.

With respect to claim 13, applicant argues that Carter's distribution block is projected outward from the top of the battery and that Lopez-Doriga's connecting bar is not located in a recess on the surface of the lid, and therefore, it would not be obvious to combine the references to come up with the applicant's invention.

Examiner respectfully disagrees for the following reasons: Carter's distribution block is partially located in a recess on the top of the lid in Fig. 3 and 4 on the slanted side of the top of the battery. Lopez-Doriga's connecting bar is located within the lid in Fig. 2 and 5, and the space in which the connecting bar is located (i.e. the space being occupied) is reasonably considered a recess. Additionally, the motivation for combining these references is listed above in the rejection of claim 13, and is also considered reasonable by the examiner.

With respect to claim 23, applicant argues that Carter does not disclose a ring-shaped protrusion, and that Lopez-Doriga does not provide a ring-shaped protrusion.

Examiner respectfully disagrees for the following reasons: Lopez-Doriga does disclose a ring-shaped protrusion (as seen on the sides of no. 7 in Fig. 3 and 4), which can reasonably be combined with Carter to meet claimed invention, as noted above in the rejection of claim 23.

With respect to claim 24, applicant argues that neither Carter nor Lopez-Doriga disclose the connection portion embedded in the inside of the battery cover and the at least one auxiliary terminal is located in the recess on the top of the lid.

Examiner respectfully disagrees for the following reasons: Lopez-Doriga does disclose such an arrangement (no. 7 in Fig. 3 connected through no. 2 in Fig. 2 and the battery terminals are partially located under the lid at the contact points), as noted above in the rejection of claim 24. Furthermore, Carter discloses wherein the auxiliary terminal is located in a recess on top of the lid (no. 240 and 250 in Fig. 3 and no. 340 and 350 in Fig. 4 and col 5 ln 57 to col 6 ln 13), and both of these references can reasonably be combined, as noted by the motivation listed in the rejection, in order to meet the requirements of the claim.

With respect to claim 25, applicant argues that neither Carter nor Lopez-Doriga disclose the downwardly extending portion of the connection portion.

Examiner respectfully disagrees for the following reasons: The Lopez-Doriga connection portion does have a downwardly extending portion, along with the horizontal section and the bushing connections (no. 7 in Fig. 3), as noted above in the rejection of claim 25. Carter also discloses a downwardly extending portion (no. 240 and 250 in Fig. 3 and no. 340 and 350 in Fig. 4), and is used in combination with Lopez-Doriga to meet the requirements of the claim.

With respect to claims 11, 21, and 27, examiner notes that more effective claim language might include an expression which states that the closed peripheral edge includes the entire edge of the recess (although that is still met by Lopez-Doriga in the examiner's opinion). Furthermore, the applicant could add more requirements pertaining to the recess' size and shape, possibly with respect to the terminal. However, examiner strongly emphasizes that mere measurements (i.e. 3 inches by 1 inch, etc.) and shapes (i.e. rectangular) are usually not patentable without some criticality.

Conclusion

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron Piggush whose telephone number is 571-272-5978. The examiner can normally be reached on Monday-Friday 8:30am-5:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Karl Easthom can be reached on 571-272-1989. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AP


Adolf Deneko Berhane
Primary Examiner